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# HIGHLIGHTS/WINTER 1976

ANNUAL OUTLOOK ISSUE

GENERAL ECONOMIC OUTLOOK
THE OUTLOOK FOR FOOD, CLOTHING, AND HOUSING
DIETARY GUIDANCE FOR FOOD STAMP FAMILIES
CONVENIENCE FOODS

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FAMILY ECONOMICS REVIEW is a quarterly report on research of the Consumer and Food Economics Institute and on information from other sources relating to economic aspects of family living. It is prepared primarily for home economics agents and home economics specialists of the Cooperative Extension Service.

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# CURRENT SITUATION AND GENERAL ECONOMIC OUTLOOK FOR THE FAMILY

by Helen F. McHugh, Dean College of Home Economics, University of Delaware

In analyzing the general economic situation of American families, it seems appropriate to mention some general population characteristics that may affect the general economic outlook in the years to come. The working population is a smaller part of the total population today than it was in 1960, and it must support increasing percentages of young and old. If per capita earnings are to be maintained, increased productivity from the working population will be required. A greater number of women than men are found in most population segments, and one in 10 families is headed by a woman. The amount of education is becoming more uniform throughout the country; the median years of school completed was 12.3 in 1974 compared with 9.3 in 1950. The numbers of people living in nonmetropolitan areas are increasing and while the population is highly mobile, moves are occuring at a decreasing rate. The South leads other regions in the rate at which new households are being formed.

#### **Current Situation**

The number of employed persons increased by 1.8 million persons between August 1974 and August 1975, yet it is noteworthy that the larger number represents only one-tenth of one percent more of the population now in the workforce. The impact of unemployment falls with uneven force on different classes of the population. Young people have borne the heaviest burden of all. While almost 13 percent of 16- to 19-year-olds were unemployed in August 1974, that percentage was nearly 18 a year later. For nonwhites in this age group the rate of unemployment was 31 percent in August 1975. Classified by occupational categories, the lowest rates of unemployment in

August 1975 were found among the manageradministrator class (2.7 percent), while the highest percentage was among construction workers (21.2 percent). The rates of unemployment among women 20 years and older are greater than for their male counterparts in all categories. The true unemployment rates may be even higher, as the data do not take into account those who have become so discouraged that they no longer are actively seeking work. The sheer trauma of repeated disappointments makes this understandable.

Unemployment insurance has reduced the magnitude of income disruptions for many workers, but such insurance is far from universal or fully offsets lost earnings. In 1974, about 55 percent of those unemployed did not receive insured benefits. In 1975, both the number of unemployed and the number of insured increased markedly, and while the number of unemployed not receiving benefits was higher in 1975 than in 1974 (by 100,000 people), the percentage of the unemployed not covered by benefits dropped to 36 percent. In 1975 there was a substantial increase in the number of initial claimants simultaneous with a doubling of the number who had exhausted their benefits. The average weekly benefits during the last 12 months of record ranged from \$62.50 to \$69.00, while the average weekly earnings for those employed ranged from \$157 to \$165.

Industrial production of all sorts dropped sharply in the final quarter of 1974. The decline continued for the most part through the second quarter of 1975. Preliminary data have been released for subsequent months which indicate a reversal back to an upward trend; yet, leading indicators announced in late October 1975 show that September 1975 activity was off in several areas. The statistical practice is that similar directional movement for 3 months in succession is necessary before it can be labeled a trend. Simultaneous with the downtrend in production was the decline in sales activity coupled with a working off of inventories in both the retail and wholesale

<sup>&</sup>lt;sup>1</sup> Tables on population characteristics and family expenditures were contained in this Outlook paper but are eliminated here because of space. These tables may be obtained from the Consumer and Food Economics Institute, Agricultural Research Service. See the address on page 2.

sectors. The unavoidable impact of such directional shifts in two major areas of activity was the reduction in employment. Data available at this time a year ago showed little, if any, of these directional shifts. Numerical data and graphs through the second quarter of 1974 showed business and industrial activities continuing to increase or at least holding constant. About the only signal of an impending downturn was the mood of the people.

Per capita disposable income for the second quarter of 1975 was \$5,055, up \$490 from the preceding year. In 1958 dollars, the equivalents would be \$2,907 and \$2,850, respectively, meaning that if all the personal income were evenly distributed among the population of the United States, each person would have had \$57 more real purchasing power this year than last in 1958 terms.

Using 1967 (the base point of the Consumer Price Index) as a base, the average wage earner in the United States received in July 1975 the equivalent of \$115.74 (1967 dollars) weekly, whereas his earnings a year earlier would have measured \$119.16 (1967 dollars)—a slight drop in the wage earner's purchasing power.

Incomes, however, are not evenly spread. Median family incomes in the South in 1973 were approximately \$1,400 below the national figure, while in the other regions the medians were up to \$800 above. Nonwhite families experienced still greater variances, with the median for that group \$7,596 in 1973, almost \$4,500 below the figure for the United States as a whole. Another important consideration is the number of families whose income is substandard. Using \$6,000 as the breakpoint and making no allowance for family size, nearly one-fifth (19.2 percent) of the families in the United States would have been classed as substandard incomewise in 1973. Almost 25 percent of the families in the South have incomes of \$6,000 or less, while only 17 percent of the families in the Northeast had such limited resources. Almost 42 percent of Negro families have incomes in the \$6,000 or less category, and the percentage increases to 52 percent for Negro families living outside metropolitan areas.

Despite the high levels of unemployment and the irregular earnings in some occupations, the levels of personal consumption have risen. Personal consumption expenditures by the end of the second quarter of this year were at an annual rate \$70 billion higher than a year earlier. This increased rate was almost equally divided between the purchase of nondurables and services. The dollar purchases for durables remained, in essence, unchanged.

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The recently released report of the 1973 of Farm-Operator Family Living Expenditures provides more specialized information for rural families. Data from that study reflect the changing allocations among expenditure categories. One of the more notable changes was an almost 50 percent reduction in the percentage spent for clothing (from 13.0 to 7.0 percent between 1955 and 1973). A percentage increase of similar magnitude for transportation shifted that expenditure category to the third largest for the average farm family. While the higher prices for vehicles would explain part of the percentage increase for transportation, some may be attributable to upgrading types of vehicles or through the addition of more vehicles per family. The higher allocations for maintenance and operating costs were recorded before any impact from the 1973 oil embargo. The amount of travel may have changed from the previous survey period (1955).

Data on spending for food by farm families in the 1973 survey are consistent with Engel's Law that families with higher incomes spend more dollars for food but a smaller percent than the lower income families. Food was the only *major* expenditure category where expenditures varied much among the farm classes.

Shelter was a relatively constant share among the income classes, with the least variation in dollar amounts spent by families for household operations. Relatively small numbers of families had purchased major appliances during the survey period.

Expenditures for clothing are puzzling from the standpoint of the dollar allocations among the different age groups. The modest dollar outlays for the younger family members may reflect the ability of the household members to adapt items for younger members of the families. Another related element may be the source of over 50 percent of the family's income. Since so much is earned off the farm,

clothing expenditures for older family members may relate directly to the generation of that income. Another factor may be that because of the rapid growth among children below 16 years lower priced garments are purchased. That seems to me the weakest explanation since no readymade garments are inexpensive nowadays.

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In comparing the expenditures for all farms between the two survey periods, outlays for medical care declined about 0.6 percent, while the costs for personal insurance increased by a bit more. Is it possible that personal insurance now covers a greater share of the medical costs so that, in essence, only a shift among categories has occurred? The percentage outlays for the different farm classes suggest this even more strongly in that the relationship between the two categories appears to be inverse.

Expenditures for education appear to have a positive correlation with income levels. The nature of the increased expenditure may reflect differences in the sources of education.

#### General Economic Outlook

You have heard about all that can be said about what *is*; now comes the tough part of trying to suggest what *may be*.

Unemployment poses as a persistent problem that may have only gradual improvement. Large numbers of those without jobs at this time last year are still unemployed. For many, the condition of unemployment appears to feed upon itself and to almost defy remedy. This state of affairs is particularly grim for that group of young people who have been unable to obtain any work experience. When recovery begins and jobs become available, the wellknown tendency of the employer is to choose those with experience. The emotional impact for some may be more difficult to handle than the monetary. It is possible that "retraining" may have to occur for some before they have ever utilized their previous skills. It must be recognized, too, that new jobs will not necessarily become available where the potential workers are located. This can add both expense and trauma and sometimes the costs are seen as greater than the benefit of being employed. The magnitude of the unemployment benefits in a few instances defer job acceptance. Many jobs vacated in the last several months have

disappeared and will not be revived. As job prospects brighten, some who currently are not searching will again become a part of the statistics.

One of the biggest culprits to a resurgence of business activity at the moment is uncertainty: What are the oil producers going to charge? How efficient and safe will the new cars be? How long will the search for new energy resources be top priority? Will Government truly institute efficiencies? All these questions come to bear directly or indirectly on prices, and the fear of refueling inflation weighs heavily in many decisions that affect the number of jobs. It appears that businessmen at last recognize that some goods and services may be price-elastic. Consumer confidence appears to be on the way back but, at the moment, is not sufficiently visible to those making the decisions about cranking up the machinery of production. administration proposals for fiscal restraint would likely protract the unemployment problem.

Income changes during the past 12 months were relatively modest. While average earnings improved slightly overall, for some it was a time of regression. States heavily dependent upon agriculture fared less well. The high levels of unemployment moderated the demands of several unions in contract negotiations. It is doubtful that the same degree of temperance will prevail for another round of negotiations.

Signs are that 1976 and beyond will see increased earning levels on the average. Important to this prediction is the fact that some 66 million income recipients (not all employed) receive automatic adjustments in income with increases in the cost of living. The pervasiveness of such adjustments has implications for future income levels that are not clear to me. Such an approach to income changes (costs of production when interpreted from another vantage point) is an added force in the cost-price spiral. Current prices, at least in some instances, neither reflect the representative costs of production nor the worth of the goods to the potential consumer. Furthermore, many items included in the so-called cost-ofliving index can hardly be considered essential to one's survival. The arguments for adjusting salaries and wages according to changes in some partly related apparatus are no more logical than a faculty member or executive asking for a salary adjustment because he wants to send his children to a private school. Yet, this approach already is deeply engrained in our economy. The point of this digression is that income changes cannot be totally separated from the price structure.

Many questions have been asked in recent weeks about the probable magnitude of price changes in the offing. Unfortunately, very few answers have been forthcoming. A most important element to future price changes is, of course, the price of oil. So many of our products are petroleum-based that changes in the price of gasoline at the pump is almost insignificant except that such changes reflect the magnitude of accompanying changes that will occur in other segments of the economy. In short, an increase in the price of crude oil will have a manifold effect on the overall commodity price level.

Any number of stories could be related about families who greatly reduced their fuel consumption only to have the total fuel costs increase. A contributor to the drastic change in utility prices is the automatic fuel adjustment which allows utility companies to pass on to the consumer the increased cost for fuels to furnish the power. The hazard of this automatic arrangement is the removal of any incentive for the producer to negotiate for cost savings in this major factor of production category. Since negotiations require time which has its own costs, the utility company finds it easier to pass the buck on. This reflects the absence of competitive forces with the usual result of higher consumer prices.

Food and fuel prices will hold the key for consumers. Much has been written about the increasing prices for food; yet, one seldom sees mention of the fact that only a small, small portion of the increase represents increases in the prices paid to farmers for the raw commodities (only \$1 out of \$104 increase in the average 1974 food bill went to the farmer). Decisions about the control of prices of both natural gas and domestic oil will influence the magnitude of price changes for a broad range of products in addition to gasoline and heating fuels. If prices are decontrolled, double digit inflation is assured. The most recent available data show an 0.5 point decline in the wholesale price index for farm products, while processed

foods and feeds increased nearly two index points. The largest increase in any category comprising the index was for fuels and related products which advanced almost 6 points (about 2 percent).

Earlier discussions referred to regional issues, and one of growing concern is the fact that the South which has the lowest average income is now confronted with the highest index of prices. The economic challenger for individuals and families in that region will be especially acute. However, no region will find it easy to keep income and expenditures in balance.

Perhaps the most positive indicator found among all the statistics reviewed is that the level of saving as a percentage of disposable income increased to 10.5 by the end of the second quarter of 1975 from 7.4 percent just 12 months earlier.

The attitudes of consumers can affect the level of economic activity. In September 1975, the NEW YORK TIMES undertook a survey of how consumers see their current situation and what they expect for the future. In the main, attitudes expressed remained positive but more modest than previously. The highest level of among young nonwhites, optimism was especially those well educated. Young women and professionals generally see the future as still better than the present. The older people, especially those who have had irregular work experience, drew negative conclusions about the future. While the American dream seems a bit tarnished for some, it remains bright for others. Other reports of increasing confidence have appeared from time to time. No doubt, some positive value can result from this optimism.

Sources: Council of Economic Advisers, Economic Indicators, 1975. The New York Times, October 30 and 31, 1975 (two-part series). U.S. Department of Agriculture, Consumer and Food Economics Institute, Family Economics Review, Summer 1975. U.S. Department of Agriculture, Economic Research Service, Social and Economic Characteristics of the Population in Metro and Nonmetro Counties, 1970, AER No. 272, 1975; The Revival of the Population Growth in Nonmetropolitan America, ERS 605, 1975. U.S. Department of Agriculture, Statistical Reporting Service, Farm-Operator Family Living Expenditures for 1973, 1975. U.S. Department of Commerce, Bureau of

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### POPULATION GROWTH IN NONMETROPOLITAN AREAS

The population grew faster in nonmetropolitan areas than in metropolitan areas between April 1970 and July 1973, reversing a long-term population trend of rural to urban migration. During this 3-year period, population in nonmetropolitan areas grew 4.2 percent compared with 2.9 percent in metropolitan areas. Among the reasons for population growth in rural areas and small towns are decentralization of manufacturing and other industry; increased settlement of retired people; expansion of State colleges; more recreation activity; and a higher birthrate in nonmetropolitan areas. Also, urban areas have lost their appeal for many people.

The highest population growth rates in nonmetropolitan areas were for counties adjacent to metropolitan areas (4.7 percent), although the population in counties not adjacent to metropolitan areas grew at a rate of 3.7 percent, still well above the metropolitan growth rate of 2.9 percent. Counties in nonmetropolitan areas that included a city of over 25,000 people had a higher growth rate than completely rural counties (4.2 and 3.0 percent, respectively).

Increased retention of population in non-metroplitan areas is characteristic of almost every part of the United States. Although there were still nearly 600 nonmetropolitan counties declining in population in the 1970-73 period, this was less than half as many (1,300) as declined in the 1960's.

The decentralization of manufacturing has been an important factor in transforming the rural and small town economy, especially in the South. During the 1960's about half of the job growth in nonmetropolitan areas was in manufacturing. Since 1969, however, jobs in trade and nongoods production have grown faster than those in manufacturing.

Another important factor in nonmetropolitan development has been the growth of recreation and retirement activities, often occurring together in the same localities. The most rapidly growing class of nonmetropolitan counties in the 1970's are those in which there was a net inmigration of 15 percent or more from 1960 to 1970 of white residents who were 60 and over in 1970. Although a number of these counties are in Florida and the Southwestern belts, the spread of retirement settlements to other regions (upper Great Lakes, the Ozarks, Central Texas, the Sierra Nevada foothills, and the east Texas coastal plain) is characteristic of recent years. Many of these areas have also attracted younger families because of the climate or employment opportunities.

The expansion of State colleges and universities in nonmetropolitan areas has also contributed to the growth of the nonmetropolitan population by increasing the availability and quality of higher education in those areas and making the towns with schools more attractive for development.

The declining birthrate has influenced the reversal in the population trend. The birthrate has declined since 1970 primarily in the most metropolitan parts of the country. Births in the heavily populated Northeast, North Central, and Pacific States decreased by 5.2 percent, while births in the South and Mountain West, areas with twice as many nonmetropolitan residents, increased by 3.5 percent.

Source: Beale, C.L. The Revival of Population Growth in Nonmetropolitan America. Economic Development Division, Economic Research Service, USDA. ERS-605, June 1975.

### THE OUTLOOK FOR FOOD SUPPLIES AND PRICES

by Kenneth R. Farrell
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In no period in recent history has the U.S. food industry undergone such economic stress as in the period 1972-75. Caught in the confluence of erratic domestic and foreign production, rising consumer demand, the energy crisis, and pervasive inflationary pressures throughout the world, food prices, marketing costs, and consumer expenditures soared at rates which most of us would have thought inconceivable just a few years ago. In September 1975 the Consumer Price Index for all food stood at 177.8—an increase of 42 percent in 3 years. In 1972 the farm food marketing bill totaled \$75 billion. We expect the bill to approximate \$100 billion in 1975, an increase of one-third. In 1972 consumers spent about \$123 billion for food. We expect them to spend about \$181 billion in 1975, an increase of 47 percent in 3 years.

For all of 1975, food prices will average close to 9 percent above 1974. This compares with annual rates of increases of about 14½ percent in each of the preceding 2 years. Among major food groups, cereal and bakery products will average about 12 percent above 1974. Meat and poultry prices will average 8 percent, dairy products and fruits and vegetables, about 4 percent, and sugar and sweets, about one-fourth above their respective 1974 averages.

Higher farm prices, likely for meat animals, poultry and eggs, and dairy products, likely will account for about one-half of the 1975 food price rise. Wider marketing spreads, primarily associated with crop-related foods, will account for the other half.

Farm-retail spreads reached record levels in the first quarter of 1975. For the year as a whole we expect the spread on our food market basket to widen about 8 percent, compared with 20 percent in 1974. During the past 2 years, large increases have occurred in costs of packaging, transportation, energy, labor, and most other inputs used by food marketing firms. However, price increases for some inputs have slowed in 1975 as inflationary forces in the economy eased.

Prices of intermediate goods and services purchased by food marketing firms rose about 5 percent from the fourth quarter of 1974 to the second quarter of 1975, compared with almost 11 percent for the same period a year earlier. Prices of packaging materials, which account for one-eighth of total marketing costs, held almost steady following the substantial boost last year. Energy costs continued to go up, but the rate slowed markedly. Interest rates on short-term loans declined during the first half of the year and currently are substantially lower than a year ago, thus lowering the cost of financing inventories and other capital outlays.

The largest expense of food marketing firms is direct labor costs. Increases in hourly earnings of food processing, wholesaling, and retailing employees the past year have been about 9 percent, compared with an average annual rate of a little over 6 percent since 1970. The rate of increase in hourly earnings slowed slightly in the first half of this year compared with a year earlier, but rising labor costs continued to exert upward pressure on farm-retail spreads.

Personal consumption expenditures for food likely will total around \$181 billion in 1975, up about one-tenth from last year reflecting mostly price increases and population growth. This compares with increases of 14.6 percent in 1974, 16.4 percent in 1973, and annual increases of 2 to 8 percent in the late sixties and early seventies.

Away-from-home expenditures are increasing more rapidly than those for food-athome—a reversal from the situation of the last 2 years and a return to the typical pattern of the decade ending in 1972. Away-from-home expenditures will account for about 21 percent of total food expenditures, only marginally different from the situation of the last 8 years.

USDA expenditures for domestic food programs now represent 4 percent of personal consumption expenditures for food. In the 1974-75 recession, they demonstrated how they help to maintain demand for food.

#### Prospects for 1976

With harvesting of the very large 1975 crop essentially complete, the outlook for food supplies and prices through mid-1976 will be heavily influenced by the manner in which these crops are utilized and their offset on livestock production. Of particular importance is the extent to which livestock and poultry producers decide to increase output utilizing this year's larger feed crops. These decisions, in turn, will depend partly on the level of foreign demand for U.S. grain and soybeans. With record crops now assured, total supplies of these commodities are sufficiently large to permit both increased livestock feeding and an expanded level of exports, including reported and anticipated sales to the Soviet Union. However, the uncertainty surrounding the relative growth in these two outlets must be recognized.

Under the conditions which now seem most likely, food prices are expected to rise at an annual rate of 4 to 5 percent during the first half of 1976, or an average rate of a little over 1 percent per quarter. First quarter prices may rise at a slightly faster pace as output of meat and poultry declines in the face of strengthening domestic demand and increasing processing and marketing costs. However, the rate of increase is likely to slow from the first to the second quarters as output of fed beef, pork, and poultry expands. Seasonal price increases for fruits vegetables, as well as higher marketing and transportation costs, likely will account for most of the small average price advance expected for the second quarter.

Marketing spreads, which have increased in all but 2 of the past 20 years, can be expected to continue to advance in the first half of 1976, but probably at a slower pace than in 1975 and certainly slower than in 1974. The rate of increase may slow to around 5 percent from year-earlier levels. This compares with year-to-year rise of about 11 percent for the first half of 1975.

Despite general economic recovery anticipated in the first half of 1976, several major inflationary pressures may impact on the cost of marketing food. The marketing bill for U.S. farm foods may average 6 percent higher in

1976 than in 1975. Major contributors to this rise will be increased costs of:

- Labor—up 6 to 8 percent.
- Packaging materials—up about 5 percent.
- Other costs—up about 7 percent due chiefly to energy and transportation.

Productivity should improve slightly due to greater volumes of food marketed and help restrain increases in these cost elements.

About one-fifth of the workers in the food marketing industry are covered by major collective bargaining agreements. Between now and June 1976, agreements covering about a quarter million of these workers will expire. Renegotiated agreements, prior wage settlement terms, and cost-of-living adjustments will continue strong upward wage trends in the food industry. Settlement terms of collective bargaining agreements have a far-reaching effect on the wage structure of the entire sector. Wages of nonunion and management employees generally follow changes in collective bargaining agreements.

#### Some Longer-Run Issues

Finally, I want to back off from the events of 1975 and those foretold for 1976 and look at some current and evolving characteristics of the food industry that may affect its performance in the years ahead. I will touch only on a few highlights. Many others also deserve consideration.

The year 1975 demonstrates that double-digit inflation in food prices has not become inevitable and 1976 offers the hope of an even lower rate of food price inflation than in 1975. The events of the last few years emphasize what we have tended to forget—that a major source of price instability is natural disaster—droughts, floods, too much rain, early frosts, and insects and diseases. This emphasizes one of the major characteristics of the next decade—instability—much of it tied to weather both here and abroad.

A second characteristic obvious from the events of the past 3 years and much of the preceding discussion at this Outlook Conference is the close ties of the entire world in food supplies and prices. The Commodity Credit

Corporation stocks and similar stocks in Canada and Australia of the fifties and sixties, which provided the cushion between events abroad and domestic food prices, have gone and appear unlikely to reappear as a continuous feature. The emergence of the USSR as a participant in the world market means that the tremendous instabilities of grain production in that part of the world have become a part of our uncertainties.

A significant element in instability is inflationary psychology as applied to commodity prices. With the kind of commodity markets we have around the world, there is a very strong tendency for rapid price increases, which are initiated by natural disaster, or actions, such as the oil embargo, to be translated into a much greater runup of prices than any economist can find a basis for in the underlying supply and demand relationships. Whether it is possible to change markets in a way that will reduce the effects of such actions is another question.

Instability cannot be abolished by decree. It will be with us for some time, perhaps permanently, although hopefully not in the degree observed in 1973 and 1974. A marketing system that must cope with instability is very different from one that must deal only with small changes, most of which are relatively predictable. It is a more expensive system, since it must provide the means of adjustment to instabilities arising from many sources.

What of the long-run trends underlying this instability? The consensus of prominent agricultural economists seems to be that the longrun supply price of agricultural products is moving upward and this is to be expected to continue. This view was undoubtedly heavily conditioned by the flattening out of the productivity curve for agricultural production from the mid-sixties to the late sixties. The more recent increases in productivity would tend to modify this view if they are continued. Other important elements in this conclusion are the energy-intensive nature of agricultural production and the expectation of fairly steady rises in energy costs in the foreseeable future. Another principal element is the virtual completion of the off-farm migration and the disappearance of the large labor reserves in the countryside which could lead to more rapid increases in farm wage rates.

Once food products leave the farm, the elements of instability are less and largely manmade. The long-term story of marketing spreads is that they increase at almost the same rate as consumer prices in the rest of the economy. The view of the operators of several large-scale econometric models seems to be for about 5 to 6 percent annual increases in the Consumer Price Index for goods and services other than food—barring another oil embargo or similar shocks over the next 5 to 10 years.

Further changes are in prospect in food processing and retailing. The supermarket building boon ended in the early sixties. Marketing strategy shifted to trading stamps and other merchandising devices which added to costs. A boom in convenience stores began which has now run its course. The next few years will see a continued movement into larger stores—a number of these will be "hypermarkets," which combine a grocery supermarket with a department store. This addition of more nonfood items will provide much of the growth which supermarket firms are looking for without putting as much pressure for expansion on the food end of the business. To what extent this will moderate the pressure for price competition remains to be seen.

Productivity is the offsetting factor to higher input prices. Unfortunately, we have not had much in the way of productivity to offset the staggering increases in the input prices for fuel, packaging, interest and labor, and other intermediate products. Consequently, unit costs have risen rapidly maintaining the upward pressure on retail prices even as we see farm prices decline for some commodities. Retail store capacity has expanded faster than volume. Consequently, overhead expenses for depreciation, rent, and so forth are raising unit costs as a result of excess capacity.

These are but a few of the changing characteristics of our food marketing system. Others might be cited concerning structure, economic concentration, and the myriad of local, State, and Federal Government regulations which overlay the system. We understand only very poorly the impacts of the changing characteristics upon performance of the food industry. Certainly such issues deserve high priority on the agricultural economic research and extension agendas of the immediate future.

# CLOTHING AND TEXTILES: SUPPLIES, PRICES, AND OUTLOOK FOR 1976

by Virginia Britton Agricultural Research Service

#### Clothing Expenditures and Prices

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Annual spending by consumers for clothing and shoes is estimated to be about \$369 per person in 1975, according to preliminary figures for the first three quarters of the year (see table). Although this amount is \$19 higher than in 1974, about three-fifths of the increase is accounted for by higher prices rather than by increased buying.

The price level for apparel and upkeep as measured by the Consumer Price Index (CPI) averaged 5.2 percent higher during the first 9 months of 1975 than in the same period in 1974. Among the three apparel subgroups, men's and boys' clothing averaged 5.2 percent higher than in 1974; footwear, 5.1 percent higher; and women's and girls' clothing, 2.8 percent higher.

Trade reports indicate that retailers and manufacturers of clothing and textiles recognize the effect on their sales of higher costs to families of the basic necessities, chiefly food and fuel, in the past 2 years. For example, from September 1973 to September 1975, while apparel and upkeep price levels increased 12 percent, consumers had to adapt their budgets to price increases such as 19 percent for food at home, 25 percent for medical care, 50 percent for gasoline and motor oil, 38 percent for gas and electricity, and 79 percent for fuel oil and coal, as shown by the CPI. While these price increases affect all consumers, especially those with restricted or inflexible income, they affect some more than others: Large families are particularly hurt by increases in food prices, older persons by increases in medical

Annual expenditures on clothing and shoes

Years	Per ca	*	Percer expendi for per	tures		regate ditures
icais.			consum		Billions	Billions
	1958 dollars	Current dollars	1958 dollars	Current dollars	of 1958 dollars	of current dollars
1966	185	204	8.7	8.6	36.4	40.3
1967	184	213	8.5	8.6	36.6	42.3
1968	188	231	8.3	8.6	37.8	46.3
1969	191	248	8.3	8.7	38.8	50.2
1970	191	258	8.2	8.6	39.1	52.8
1971	197	277	8.2	8.6	40.8	57.3
1972	209	302	8.3	8.6	43.6	63.0
1973	220	334	8.4	8.7	46.3	70.2
1974	212	350	8.3	8.5	45.0	74.1
1975 <sup>1</sup>	217	369	8.6	8.4	46.3	78.8

<sup>&</sup>lt;sup>1</sup> Preliminary figures--average of estimates for first 3 quarters of 1975 (that is, seasonally adjusted quarterly totals at annual rates).

Source: Department of Commerce.

<sup>&</sup>lt;sup>1</sup>Discussion of business trends is based on review and assessment over several months of news items in trade sources such as the Daily News Record, Textile Organon, America's Textiles, American Fabrics and Fashions, Chemical and Engineering News, and the Wall Street Journal, as well as trade reports in the New York Times and Business Week and other publications of general circulation.

care prices, rural families by increases in gasoline and motor oil for transportation, and families in colder climates by increases in prices for heating fuel.

Trade papers summarize the retailer's current goal as to trim costs and raise profits rather than simply build sales. To this end, particular emphasis is given to inventory control and rapid turnover. Inventories have been worked down by special sales and clearance sales and are said to be lower and more balanced than a year ago. Retailers are striving to hold down inventories by buying closer to the season and re-ordering more often. Retailers seek "sure-sellers" or "hot movers," but fewer big ticket, low-turnover goods or fringe items, which may mean a smaller variety than in the past and fewer clearance markdowns. They want fashion and promotion goods with fresh inventories and fast turnover, even reducing quickly the prices of fashion goods. There is stepped-up merchandising of men's wear that emphasizes fashion, multiple seasons (at least four a year), and more flexibility in color, style, and fabric.

Chain retailers reported good fall 1975 sales in children's apparel and shoes but continued strong price resistance except in items such as prewashed denims, corduroy sportswear, and men's leisure suits. For next spring and summer, featured items are expected to include separates and coordinates; color-coordinated goods in a range of weights; women's scarves, stoles, shawls, and other items that can be coordinated; and men's print sport shirts and casual pants. Leisure suits will vary from casual to moderately tailored, and sportswear-oriented clothing is expected to be important even for tailored clothing.

Retailers purchased about 9 percent fewer shoes (nonrubber) in the first 7 months of 1975 than a year earlier, according to estimates from the U.S. Department of Commerce. Purchases from U.S. producers declined, while imports remained about the same. In August the U.S. nonrubber shoe industry claimed that imports caused it "serious injury" and asked the International Trade Commission to put mandatory quotas on footwear from some foreign countries. In the first 7 months of 1975, retailers purchased about 56 percent of their shoes from U.S. producers—27 percent with uppers of leather (all or part), 17 percent

with vinyl, and 12 percent with other materials (such as fabric and straw). About 44 percent of retailers' purchases were imported, including 21 percent with leather uppers, 16 percent with vinyl, and 7 percent with other materials. In total, about one-half the shoes had nonleather uppers, compared with about one-third in 1970; and most shoes had nonleather soles.

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During 1976, price levels for apparel will probably continue to rise as the economy revives and as increased costs are passed along. However, continued pressures on consumer income, limiting amounts for discretionary spending, may prevent any large rise in average spending on clothing in terms of dollars of constant value.

#### Supplies of Raw Materials<sup>2</sup>

Prospective supplies of raw materials appear adequate for the year ahead, and production capacity is available unless hampered by a development of shortages of natural gas this winter. Since August, however, industrial users of natural gas have been permitted by the Federal Power Commission to search out their own supplies.

U.S. mill use of *fibers* in calendar year 1975 will drop below 50 pounds on a per capita basis. This compares with 1974 use of 52 pounds, including about 16 pounds of cotton, 36 pounds of manmade fibers, and less than 1 pound of wool. Before the recent recession, fiber use hit a record of nearly 60 pounds per capita in 1972.

Although U.S. mills are using less cotton this year, mill use has been increasing since the low point reached early in 1975. With general economic activity improving in 1976, mill use of fibers will probably increase from the 1975 level. With the sharply smaller cotton crop expected for 1975, smaller U.S. cotton supplies are expected for the current crop year, August 1, 1975, to July 31, 1976, despite much larger cotton stocks at the beginning. However, somewhat smaller exports during the current crop year will mean adequate supplies for domestic mills. Prices for most qualities of

<sup>&</sup>lt;sup>2</sup>Except where specifically noted, estimates of supplies were provided by the Economic Research Service of the U.S. Department of Agriculture.

cotton have risen from the January 1975 bottom, primarily reflecting reduced 1975 crop prospects, improving demand, and producer resistance to selling at the previous low prices. Although current prices are a little above prices for competitive rayon and polyester staple, increasing manmade fiber production cost may soon narrow the gap.

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Shipments of manmade fibers by U.S. producers have generally been rising in 1975. Figures for August were approximately 9 percent higher than for July, according to TEXTILE ORGANON (September 1975). However, total shipments during the first 8 months of 1975 were about 19 percent lower than in the same period in 1974. Trade papers report that several major producers of polyester filament yarns plan a new round of price increases effective with November 1975 shipments. Price increases were also scheduled for rayon staple and for triacetate filament yarns. Some fiber producers talk of prices equal to or higher than the 1973-74 highs because of increasing costs of raw material and production and of meeting requirements under new environmental regulations.

U.S. wool production (apparel class) for 1975 is estimated at 10 percent below 1974 and 18 percent below 1973, and the outlook for 1976 is for continued decline. U.S. farm

prices of shorn wool in 1975 are running well below prices in the previous 2 years. There are, however, very large foreign stocks of raw wool available, though foreign prices are higher than U.S. prices. U.S. mill use of raw apparel wool in 1975 has been running ahead of 1974. Further increase in wool use by U.S. mills will depend largely on the level of economic recovery and the competition of manmade fibers.

U.S. production of cattle hides in 1975 was about 10 percent higher than in 1974, according to preliminary estimates. The projection for 1976 is for a further 3 percent increase. In 1975 these hides may have been smaller than in the past because of lower slaughter weights of range animals than of those finished in feedlots. Slaughter weights are expected to be increasing again in 1976 as fed cattle slaughter increases. An increase in the supply of leather on the market may result from the development of techniques for skinning hogs presently used by some packers and being considered by others. New techniques for tanning pigskins to eliminate grease should result in greater use of this material for leather. Growing fashion for leather with the individual scratches and markings of the original hide and for leathers and suedes of varied colors for garments is seen by the Tanners' Council.

### WARDROBE REPLACEMENT PLANNING AID FOR FAMILIES

A new computer program "Wardrobe Replacement Planning Aid for Families" has been developed by the Consumer and Food Economics Institute. The computer program is available to Extension workers and others who work with families to help them schedule clothing purchases to meet wardrobe needs at a given budget level. The aid is to be used with families on low or moderate budgets.

The program takes into consideration the specific characteristics of the family members and the amount available to spend for clothing and constructs, for each family member, a plan for replacing garments in the wardrobe. The plan shows the garments to be replaced each spring and fall for 4 years, the approximate price that may be paid, and the number of years each garment is expected to last before

replacement. A clothing inventory for each 6-month period shows the number of garments that will be available for use.

The user of the program analyzes the wardrobe plan against the needs of each family member to determine adequacy and makes adjustments that are necessary to provide a satisfactory plan.

The program is available in interactive mode on the Computerized Management Network (CMN). Information about costs and procedures may be obtained from the Computerized Management Network, Cooperative Extension Service, Virginia Polytechnic Institute and State University, Blacksburg, Va. 24061.

Information on obtaining a program deck to use on your own system in interactive or batch mode may be obtained from Mary Lou Cooper,

Consumer and Food Economics Institute (CFEI), Agricultural Research Service, U.S. Department of Agriculture, Hyattsville, Md. 20782.

The computer programs "Budgeting for Retirement" and "Can We Afford It?" are still

available in interactive mode on the Computerized Management Network under the program names "RETIR" and "AFFRD," respectively. Both programs are also available in batch mode. The program decks and instructions for entering the data are available from CFEI.

### SITUATION IN HOUSING AND TRENDS AFFECTING THE FAMILY

by Robert J. Sheehan National Association of Home Builders

Private housing starts for the year 1975 are expected to total only 1.15 million units. The 1975 production level will be the lowest since 1946, and it will be 52 percent below the record production year 1972 when 2.4 million units were started. In spite of this very low level, a modest recovery has already begun. Private housing starts have moved from an 880,000 unit seasonally adjusted annual rate in December 1974 to a 1.25 million unit in the third quarter of 1975. National Association of Home Builders' (NAHB) 1976 forecast shows a continuation of this moderate recovery, with starts expected to total 1.45 million units.

Why was the housing downturn so sharp and the recovery so modest? The exceptionally strong housing production years 1971, 1972, and 1973 were supported with a very high level of Federally subsidized units. Total starts reached over 2.0 million units during each of these years, and more than 500,000 starts were subsidized in the 3-year period. U.S. Department of Housing and Urban Development's (HUD) Section 235 and Section 236 programs for low- and moderate-income families provided a major share of these subsidized starts. This high level of subsidies resulted from housing legislation passed in the late 1960's, when a housing goal was established, specifying 26 million units over a 10-year period. But in late 1973, the Administration withdrew its support from the Sections 235 and 236 programs.

The Federal Government's withdrawal of support to the housing industry was coupled with an economic downturn and rising inflation through 1974. Interest rates increased, and savings left thrift institutions for higher yielding government securities. In 1974, private

housing starts dropped to 1.34 million units from 2.05 million units in 1973. By the end of 1974, families experienced a significant drop in personal income in real terms, the threat of unemployment loomed, and high mortgage interest rates were connected with the purchase of a new home. The costs of other housing expenses, transportation, and food also were increasing rapidly. The energy crisis and the jump in oil prices now rested on consumers, who were faced with much higher utility and gasoline bills. These factors forced major shifts in family budgets.

In early 1975, the economy began to turn around. Savings began to flow back into thrift institutions at record rates. During 1974, Administration programs were funded, and new legislation was developed, passed, and funded by Congress—thus, providing some support to new homes sales.

Administration programs included \$10 billion through the Government National Mortgage Association (Ginnie Mae) Tandem Plan, and a \$3 billion special assistance program through the Federal Home Loan Mortgage Corporation (Freddy Mac). The Tandem Plan provides below market interest rates for mortgages insured under FHA and VA homeownership programs. The Federal Home Loan Bank was permitted to extend \$4 billion in special advances to member savings and loan associations. The new legislation was a conventional mortgage support program, known as the Brooke-Cranston Bill. It provided \$7.5 billion in funding. The total potential of these programs was support for over 650,000 single family sales units. By the end of second quarter 1975, about 175,000 new units had been

assisted. Many problems exist with some of these programs, which probably will never reach full potential. However, they may have prevented a total collapse of the new home sales market.

The 1975 sales market also received a big boost from new legislation that allowed a tax credit of up to \$2,000 for the purchase of new units which were in the inventory no later than March 26, 1975.

All of this support to the housing market helped the sales of new one-family homes climb from a seasonally adjusted annual rate of 411,000 units in February 1975 to 463,000 units in March, and to 570,000 units in April.

These programs directed toward new home sales most certainly have helped the recovery in single family construction. The seasonally adjusted annual rate of starts in this sector climbed 29 percent between the first and third quarters of 1975, or from 740,000 units to 967,000. The third quarter rate was 85 percent of the 1.1 million unit single family rate for the same period in 1973, and it represents a reasonable level of production at this point in time.

Mortgage interest rates should soften during most of 1976, and thus provide further help to the single family sector. The strong savings flows in the first half of 1975 were a sign that mortgage rates would drop in the second half. Savings and Loan outstanding advances, which had climbed from \$15.1 billion in December 1973 to \$21.8 billion at the end of 1974, were decreasing; and Savings and Loans were rebuilding liquidity. Then at midyear, the Federal Reserve Board, concerned about growth in the money supply, turned to restrictive monetary policies—and short-term interest rates began to rise again. This increase in shortterm rates brought the threat of another disintermediation period for thrift institutions and kept mortgage interest rates at high levels. The Federal Reserve Board's recent return to an easier monetary policy should translate into lower mortgage interest rates in the first half of 1976. They should drop from the present 9 to 9.25 percent levels to an 8.50 to 8.75 percent

Fears of renewed significant inflation and a stronger demand in the money markets for capital expenditures and consumer debt will prevent a sharper drop in mortgage rates. The second half of 1976 should see a stabilization of these rates and a slight downturn in single family starts.

The multifamily sector is faced with severe problems and its recovery is likely to be restricted. In third quarter 1975, multifamily starts were at a 292,000 unit seasonally adjusted annual rate, or 68 percent below the 1973 level of 913,000. This sector has been plagued by overbuilding of condominium units and restrictions that have made rental unit construction unfeasible.

Approximately 75 percent of the condominium construction in the United States occurred in Florida and California in the early 1970's, and Florida alone accounted for more than 40 percent of the total. A large unsold inventory, especially in Florida, has resulted. In Dade County, Fl., (the Miami area) the unsold inventory is estimated to be 30,000 to 35,000 units. Florida's total new unsold condominium inventory approaches 90,000 to 100,000 units, and the level for the entire country is about 175,000 to 200,000 units. In 1973, probably the peak year for condominium production, their total starts numbered about 225,000 units. At present sales rates, many Florida areas have at least a 3-year supply of units. Any significant upturn in condominium starts in multifamily structures will have to result from penetration of different markets.

Rental units also were overbuilt in most areas of the country at one time or the other over the past 10 years. A general statement that this situation still exists is not true. In third quarter 1975, the vacancy rate of all rental units was 6.2 percent. This represents a continuation of stability in the rate that has occurred in the past year. The current rate, while above the 5.1 to 5.8 percent range of the 1969-73 period, is well below the 8 percent plus levels of the early 1960's. It is also below Federal Home Administration's (FHA) 7.5 percent benchmark for underwriting purposes in which a market can be considered viable.

To a large extent, the lower rental vacancy rates in the 1969-73 period resulted from strong growth in primary individual households among persons who were born during the post World War II baby boom. The increased rental vacancy rate in the 1974-75 period has evolved from inflation and the general economic downturn, which led to shrinking real incomes, and

then to delays in household formations, or to doubling up. The economic upturn should reverse this pattern in 1976. This reversal in turn is expected to lead to a tightening in the available rental supply.

A strong upturn in apartment rental units will have to be accompanied with solutions to a myriad of problems that confront developers and builders in this sector. Through zoning and regulation procedures, environmental and nogrowth groups are putting increasing pressure on local governments to curtail multifamily construction. Frequently, rental projects take 18 to 24 months before a spade of dirt is turned. Fees are also rising rapidly. In Fairfax County, Va., the water and sewer tap fee for a single family home increased from \$275 in November 1969 to \$1,625 by April 1975.

The economics of rental construction is not favorable. Financing charges are quite high. Cash flows are not keeping pace with maintenance and operating costs. The consumer price rent index rose 38.4 percent in the 8-year period September 1967 to September 1975, or an average annual increase of 4.1 percent. In comparison, the total Consumer Price Index rose 63.6 percent, or an average annual increase of 6.4 percent. Thus rents have increased at a rate only 60 percent of that of all consumer expenses.

It is unlikely that 1976 will bring a generally favorable economic climate for new rental construction. Production will be up but only marginally.

What are some of the longer term effects of high construction costs, land prices, and energy costs?

Present demographic trends point toward increased single family demand at the end of this decade and into the 1980's. The proportion of persons 25 to 34 years of age will increase rapidly during this period. Persons in this age group are prime homebuyers. They will form families and, although they will not have as many children as their parents had, they will probably still demand three bedroom homes. Costs may push these families toward townhouses (generally a component of the single family sector) and away from detached units. The great American dream will still be a home rather than a unit in a garden apartment or high-rise apartment building. The single family

market will be helped by increases in family incomes as more women enter the labor force.

At this point in time it might be helpful to discuss in more detail whether families will be able to afford new homes. We recently completed a study which shows that the proportion of families able to afford a new home in 1975, at 22.4 percent, is close to the 22.9 percent proportion in 1955. Incomes have increased as rapidly as housing costs.

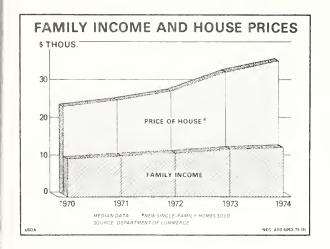
Rising energy, food, transportation, and other expenses threaten to force more families out of the market. How are builders reacting to this? Their initial reaction has been to reduce the amenities offered in both new for sale and new rental units. For example, the proportion of new homes that had ranges included in the sales price is expected to drop to 77 percent in 1975 from 96 percent in 1974. This change was reported in an NAHB survey of builders last spring. They also reported fewer refrigerators, dishwashers, disposals, trash compactors, washers, and dryers. In the spring survey, these builders did not report a decline in size of the homes. Since new units must compete with the existing inventory, changes will tend to be marginal and slow. A growing number of builders are exploring basic homes—units of 1,000 to 1,200 square feet that can be easily added to in the future. These homes are intended to attract more moderate income families into the market. A combination of basic homes and more townhouses will tend to lower the median square feet of floor area in single family homes in the next few years.

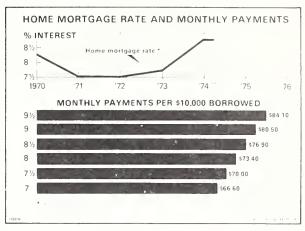
Multifamily construction should have an increasing condominium component. The tax advantages of ownership and the restricted economics of rental construction will be the principal causes of this shift.

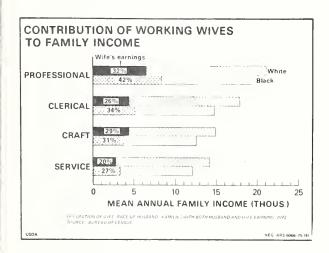
In fact, the rental sector may be in short supply by 1977. The present level of vacant units will decline significantly as the low level of new construction and completions fails to keep up with renewed demand as the economy expands again.

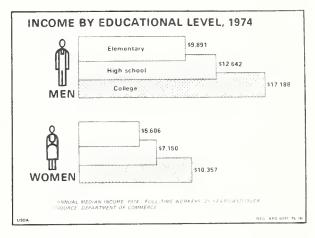
Finally, housing families in the United States will continue to be a function of our general economy as it has been in the past. This country's economic system has many problems which must be solved to provide stability and growth on a continuing basis.

# SOME NEW USDA CHARTS









cents each and prints are  $$2.70 (8" \times 10" \text{ or less})$ . When ordering, please give negative number, title of chart, and, if a print, the size desired.

#### CHARTBOOK ON WORKING WOMEN

"U.S. Working Women: A Chartbook," issued by the U.S. Department of Labor, Bureau of Labor Statistics, presents a wide array of data on the characteristics of American working women and their changing status over the past quarter of a century. The chartbook provides information on women's

employment and unemployment, marital and family status, and income and education.

The chartbook, Bulletin 1880, is for sale for \$1.75 by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402. (Stock No. 029-001-01780-4)

<sup>&</sup>lt;sup>1</sup> Black and white photographic prints or colored slides of charts may be ordered from Photography Division, Office of Communication, U.S. Department of Agriculture, Washington, D.C., 20250. Slides are 30

#### DIETARY GUIDANCE FOR FOOD STAMP FAMILIES

by Betty Peterkin Agricultural Research Service

Three of the four revised USDA family food plans—low-cost, moderate-cost, and liberal—were presented at the Annual Agricultural Outlook Conference in December 1974.¹ The thrifty food plan (table 1), which replaces the economy plan (the least expensive of the plans), was released in September 1975.² The thrifty plan will be used in the preparation of guidance materials for the many consumers and leaders who request information from the Department on how to economize on food. The estimated cost for this plan is given in table 2 and will appear regularly in FAMILY ECONOMICS REVIEW.

Most families will find the cost for one of the four USDA plans for a family of their size and composition similar to the amount they spend for food at home. For example, in October 1975 a family of four with two elementary school children spent about \$38 a week for the thrifty plan, \$50 for the low-cost plan, \$62 for the moderate-cost plan, and \$75 for the liberal plan.

The plans allow for the number of persons and the sex and age of persons in the family. To do this, each plan specifies amounts of foods of different types (food groups) that together will provide nutritious diets for men, women, and children of different ages and for pregnant and nursing women. These amounts of food groups can be totaled for persons of the sex and age of family members to determine the plan for any family.

Families following the plans may choose from the food groups those foods that they can afford, that they can store properly, that they

know how to prepare, and that they enjoy eating. Foods within a food group are generally similar to each other in nutritive value. In some groups—meat, poultry and fish, for example—one food in the group may be used to replace another in a meal. Each group is of special importance for one or more nutrients or as a source of food energy. While several food groups may provide appreciable amounts of the same nutrient, the cost of providing the nutrient may differ considerably among groups. For example, foods in both the meat and bread groups provide iron; but a milligram of iron from the meat group costs much more than a milligram of iron from the bread group.

The 1974-75 food plans replace plans developed in 1964. They take into account new information about nutritional needs, nutritive values of foods, food prices, and food consumption of families. The thrifty food plan was developed using the same nutritional goals and the same procedures as the three more costly plans. It differs only in cost level and in the group of survey households used as the basis for food consumption patterns in its development. For a discussion of the reasons for revising the food plans, see the Winter 1975 issue of FAMILY ECONOMICS REVIEW.

#### Food Consumption Patterns and the RDA

The food consumption patterns used in developing the thrifty food plan were based on survey data for persons in households with relatively low food costs. Foods in these patterns provided the Recommended Dietary Allowances (RDA) plus 5 percent for some nutrients, but not for others. (The RDA were increased by 5 percent in evaluating food patterns to allow for nutrient loss associated with the discard of a small amount of edible food as plate waste or because of spoilage and the like.) Patterns for all sex-age categories provided the RDA plus 5 percent for protein, vitamin A value, thiamin, riboflavin, niacin, vitamin  $B_{1.2}$ ,

<sup>&</sup>lt;sup>1</sup> Peterkin, B. USDA Family Food Plans, 1974, USDA, ARS-NE-36, Family Economics Review, Winter 1975; Peterkin, B., The Food Plans and Family Budgeting, USDA, ARS-NE-36, Family Economics Review, Spring 1975.

<sup>&</sup>lt;sup>2</sup> Peterkin, B., Chassy, J., and Kerr, R., The Thrifty Food Plan, USDA, ARS, CFE(Adm.)326, September 1975.

Table 1. Thrifty food plan -- Amounts of food for a week  $\frac{1}{2}$ 

Milk, Family member cheese,	Qt.	olyear	6-8 years 4.22		Male: 12-14 years 5.18		20-54 years   2.57	55 years and over 2.37	Female: 12-19 years 5.35		and over	Pregnant $\frac{1}{2}$ 5.25 Mursing $\frac{1}{2}$ 5.25
			1.27		1.79		3.03				1.84	
Meat, poultry, Eggs fish 3/		9			3.6	5 4.0		5 4.0	3.8	1 4.0	0.4.0	0.4.0
Dry beans and peas, nuts 4/	릐	0.15	04.0		19.	.43	††.	.25	. 28	.27	.19	 4 W M 80
Dark-green, deep-yellow vegetables	q]	14.0 22.	22.0	)    -	. 33	.32	.39	.51	. 42	.52	09.	.57
Citrus fruit, tomatoes	릐	.89	1.10	1	1,45	1.70	1.80	1.85	1.74	1.86	2.02	2.17 2.36
Potatoes v	읩	60.0	1.23	)  -  -	1.59	2,10	2.02	1.75	1.22	1.51	1.26	1.92
Other vegetables, fruit	임	0.49 0.26 0.06	2.50		3,30	3.43	3,69	3.77	3.61	3.39	3.73	4.03
Cereal	임	6/1.02 6/1.02	1.12	H	1.22	.98	68.	1.09	.72	.90	1.12	1.13 .98
Flour	잌	0.02	26. 8	•	.81	66.	.92	. 80	91.	.67	99.	.58
Bread	임	90.08	1.42	H •	2.07	2.36	2.29	1.90	1.49	1.41	1.30	1.56
Other bakery products	임	42.			1.13				48.	.67	22.0	. 82
Fats, S	qT	.01	17.9		.77	00.1	.95	. 79	.51	.57	.37	56.
Sugar, sweets A	임	0.19 .30	46.	-	1.21	1.05	98.	76.	47.	.57	24.0	.75
Accessories 5/	읩	0.05	18.	) 	1.45	1.73	1.24	.73	1.36	1.18	99.	1.54

Amounts are for food as purchased or brought into the kitchen from garden or farm to prepare all meals and snacks for the week. Amounts allow for a discard of about 5 percent of the edible food as plate waste, spoilage, etc. 7

Fluid milk and beverage made from dry or evaporated milk. Cheese and ice cream may replace some milk. Count as equivalent to a quart of fluid milk: Natural or processed Cheddar-type cheese, 6 oz; cottage cheese, 2-1/2 lb; ice cream or ice milk, 1-1/2 qt; unflavored yoghurt, 4 cups. 2

 $\underline{3}$ / Bacon and salt pork should not exceed 1/3 lb for each 5 lb of this group.

Weight in terms of dry beans and peas, shelled nuts, and peanut butter. Count 1 1b of canned dry beans--pork and beans, kidney beans, etc.-as .33 pound. 7

Includes coffee, tea, cocoa, soft drinks, punches, ades, leavenings, and seasonings 2

 $\overline{6}$  Cereal fortified with iron is recommended.

 ${f I}/$  For pregnant and nursing teenagers, 7 qt are recommended.

Cost of food at home estimated for food plans at four cost levels, October 1975, U.S. average  $\underline{\mathcal{U}}$ Table 2.

		Cost for	1 week			Cost	for 1 month	
Sex-age groups	Thrifty plan	Low-cost plan	Moderate- cost plan	Liberal plan	Thrifty plan	Low-cost plan	Moderate- cost plan	Liberal plan
FAMILIES	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Family of 2: 2/ 20-54 years	22.40	29.30 25.70	36.80 32.10	44.30 38.50	97.00	126.80 111.90	159.50 139.30	192.10 167.00
Couple, 20-54 years and children 1-2 and 3-5 years	31.70 38.20	41.10	51.40 62.40	61.80	137.10 165.50	177.80 215.00	222.40 270.30	267.60 325.30
INDIVIDUALS 3/								
Child: 7 months to 1 year	4.40	5.40	6.70	7.90	19.10	23.60	28.90	34.20
1-2 years	5.10	09.9	8.10	9.70	22.10	28.40	35.10	42.00
3-5 years	6.20	7.90	08.6	11.80	26.80	34.10	42.30	51.00
6-8 years	7.90	10.20	12.80	15.40	34.30	44.30	55.60	06.99
9-11 years	06.6	12.80	16.10	19.30	43.00	55.40	69.70	83.80
12-14 years	10.60	13.70	17.10	20.60	45.90	59.30	74.30	89.30
15-19 years	11.70	15.10	19.00	22.90	50.70	65.60	82.30	99.30
20-54 years	11.30	14.80	18.70	22.60	48.70	64.10	81.00	97.90
55 years and over	06.6	12.90	16.10	19.40	43.10	26.00	06.69	84.30
remaie: 12-19 years	9.40	12.20	15.10	18.10	40.80	52.70	65.40	78.30
20-54 years	9.10	11.80	14.80	17.70	39.50	51.20	64.00	76.70
55 years and over	8.20	10.50	13.10	15.60	35.50	45.70	56.70	67.50
Pregnant	11.30	14.60	18.00	21.50	48.90	63.10	78.00	93.20
Nursing	12.10	15.50	19.30	23.10	52.20	67.20	83.60	100.00

The costs of the food plans were These prices are updated by use of "Estimated Retail Food Prices by Cities" Estimates for first estimated using prices paid in 1965-66 by households from USDA's Household Food Consumption Survey with 1/ Assumes that food for all meals and snacks is purchased at the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 each plan were computed from quantities of foods published in the Winter 1976 (thrifty plan were computed from the Winter 1976 (thrift (low-cost, moderate-cost, and liberal plans) issues of Family Economics Review. released monthly by the Bureau of Labor Statistics. food costs at four selected levels.

following adjustments are suggested: 1-person--add 20 percent; 2-person--add 10 percent; 3-person--add 5 percent; For individuals in other size families, the 5- or 6-person--subtract 5 percent; 7- or-more-person--subtract 10 percent. See footnote 3. The costs given are for individuals in 4-person families. 10 percent added for family size adjustment.

and ascorbic acid, but patterns for the following categories were short in certain nutrients:

Nutrient	Sex-age category
Calcium	Teenage girls; women; men, 55 years and older.
Iron	Infants; children, 1 to 2 years; teenage girls; women, 20 to 54 years.
Vitamin B <sub>6</sub> <sup>1</sup>	Teenage girls; women; men, 55 years and older.
Magnesium <sup>1</sup>	All, 12 years and older.

 $<sup>^{\</sup>rm 1}$  Evaluation based on rough estimate of content of food making up food consumption patterns. Content of this nutrient in many foods in the patterns is not known.

Fat in consumption patterns of older teenage boys, of men, and of women 20 to 54 years of age provided more than 40 percent of food energy—the upper limit for fat allowed in the plans.

To meet nutritional goals within cost limitations for the thrifty plan, adjustments to consumption patterns were required. These adjustments involved the use of less meat, poultry, fish, and eggs and more dry beans, dry peas, and grain products. Food consumption patterns for the three more expensive plans also had nutritional shortcomings, for which adjustments to patterns were required in developing the plans.

#### Nutritional Quality of the Thrifty Plan

The thrifty plan provides the RDA plus 5 to 10 percent for food energy and the RDA plus 5 percent or more for protein, calcium, iron, vitamin A value, thiamin, riboflavin, niacin, and ascorbic acid (table 3). Fat provides 30 to 39 percent of the food energy. Nutritive values for average selections of foods within food groups, as made by survey households with relatively low food costs, were assumed in evaluating the plan.

The higher iron enrichment level for bread and flour proposed by the Food and Drug Administration in 1973 was assumed in the development of the thrifty plan (and the three more expensive plans). If that enrichment level is not adopted, the nutritional goal for iron will not be met by the thrifty plan (or the three more expensive plans) for young children, teen-

age girls, and women of childbearing age, when average selections within food groups are made. However, the goal can be met through the frequent selection of foods providing important amounts of iron, such as liver, heart, kidney, lean meats, shellfish, dry beans, dry peas, darkgreen vegetables, dried fruit, cereals with iron added, and molasses. Plans for all sex-age categories provide iron in excess of the amount specified by the National Academy of Sciences-National Research Council (NAS-NRC) as likely to be furnished by a balanced and varied diet—6 mg of iron/1000 kcal—when current enrichment levels are assumed and average selections within food groups are made. Iron-fortified cereal is recommended infants and children 1 to 2 years of age.

The vitamin  $B_6$ , vitamin  $B_{12}$ , and magnesium content of many foods in the plan is not known. Nevertheless, a rough estimate was made of levels provided by the plan. Foods in the thrifty plan (and the three more expensive plans) furnish more than the RDA for vitamin  $B_{12}$  but do not meet the RDA for vitamin  $B_6$ and magnesium for several sex-age categories. Plans that meet the nutritional goals for vitamin B<sub>6</sub> and magnesium can be developed by using the food composition data available, but such plans contain large amounts of vegetables, fruit, and cereal—two to three times as much as consumed by some sex-age categories in 1965-66. Such distortion of food consumption patterns is not justified on this basis. Therefore, 80 percent of the RDA for vitamin B<sub>6</sub> and magnesium was used as the basis for goals in developing all of the USDA food plans.

Phosphorus levels of foods in the plans were not calculated but are believed to be well above the RDA. The use of iodized salt is recommended as an efficient way to supplement dietary iodine.

The requirement for vitamin D for normal persons can be met by exposure to sunlight. However, for infants and elderly persons whose activities limit their exposure to sunlight, the allowance should be provided in the diet by such foods as eggs, liver, butter, and milk fortified with vitamin D or by supplementation.

Insufficient reliable information is available on the content in foods of the three other nutrients for which RDA are set—vitamin E, folacin, and zinc—to make reliable estimates of levels provided by the plans.

Nutritive value for thrifty food plan $^{\perp}/$  as percentage of the nutritional goals $^{\geq}/$ Table 3.

Under 1-2   1 year   1-2     Food energy   100   100     Protein   223   204     Calcium   166   100     Iron   3/ 100+ 3/ 100+     Vitamin A value   173   140	2 3-5  urs years  00 100  04 182  00 100  00+ 115	5-8 years 100 200 125	9-11 years	12-14 years	15-19 years	20-54		12-19	20-54 vears	55 years	Preomant	Wineing
223 223 166 3/100+ A value 173		100 200 125	100			2 1000	or more	years		7 TOT TO	T T C Burners	Surcing
223 166 3/100+ A value 173		200		100	100	100	100	100	100	100	100	100
166 3/ 100+ min A value		125	208	198	170	150	130	159	147	135	111	132
3/ 100+ min A value 173		1	126	106	901	110	100	100	100	100	101	103
173		185	179	135	152	257	233	104	109	192	121	125
		120	117	100	109	108	110	131	132	134	125	111
Ascorbic acid 100 100	105	126	157	149	167	164	163	160	160	167	941	116
Niacin <u>1</u> / 194 218	18 204	210	213	215	204	224	221	227	248	549	250	529
Riboflavin 271 219	991 61	171	192	172	147	133	133	164	156	171	150	136
Thiamin 157 175	941 51	137	144	139	134	135	146	138	150	151	125	127
Vitemin B6 330 285	35 195	172	165	148	118	115	110	100	100	100	100	100
Vitemin B <sub>12</sub> $\frac{h}{4}$ 100+ $\frac{h}{4}$ 100+	10+ 286	244	223	184	193	172	159	170	157	148	156	159
Magnesium 313 17h	146	148	143	126	111	114	103	118	111	108	100	100

Values for vitamin B6, vitamin B12, Values for niacin for all foods the separable fat from meat is assumed. For bread and flour, enrichment levels for iron proposed in 1973 are assumed. include niacin in the food and an estimate of the niacin formed in the body from the protein substance, tryptophan. and magnesium are estimated for many foods in the plans because of insufficient information on content of foods.

RDA is used. The goals, the RDA base plus 5 percent, allows for some discard of edible food. Therefore, the amounts of foods in the plan provide 5 percent more than the percentage shown, if no edible food is discarded. A range of 105 to 110 percent of the RDA for food energy is allowed. Fat is limited to provide no more than 40 percent of food energy. Nutritional goals are based on the Recommended Dietary Allowances, 1974, for all nutrients except vitamin B6 and magnesium, for which 80 percent of the Therefore, the amounts of foods in the plan provide 7

Assumes that cereal fortified with iron is used. Percentage varies depending on the level of fortification of cereals used. m al N

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 $\frac{1}{2}$  Fercentage varies depending on level of fortification of cereals used.

Food plans developed to meet the RDA would be expected to provide generous amounts of nutrients for most persons. The NAS-NRC states that the basis for the RDA is such that "even if a person habitually consumes less than the recommended amounts of some nutrients, his diet is not necessarily inadequate for those nutrients."

Allowances are not specified by the NAS-NRC for some dietary factors of adequate diets. An example is linoleic acid, an essential fatty acid found in large concentrations in many oils that come from plants. Also, dietary fiber is necessary for the normal functioning of the intestinal tract. Good sources of fiber include whole-grain cereals, fruits, vegetables, and legumes, such as dried peas and beans.

#### Planning Meals Based on the Thrifty Plan

Meals based on the thrifty plan will not be elaborate. They rely heavily on cereal and bread, and contain less meat, poultry, and fish and less vegetables and fruit than most families customarily eat. However, food managers with interest and skill in buying and preparing food can serve varied and appetizing meals based on the plan.

The week's menus in table 4 illustrate how foods in the plan can be combined into appetizing and nutritious meals and snacks. These meals are prepared from foods in the thrifty food plan for four-person families with the average sex-age composition of those receiving food stamps. Sample meals for a month, with recipes and lists of food used in their preparation for a family of four following the plan, have been prepared and tried by several families receiving food stamps. These sample

meal plans are available upon request from the Consumer and Food Economics Institute, Agricultural Research Service, U.S. Department of Agriculture, Hyattsville, Md. 20782. Additional economical meal plans, allowing for preference of individual families for foods within food groups, can be prepared based on the thrifty plan.

In estimating costs for the thrifty plan, food selections within food groups are based on selections of the survey households used in deriving food consumption patterns for the plan. Such selections are used, recognizing that some families following the plan might not have either the skill or the opportunity to consistently select foods within food groups that are more economical than those made on the average by these survey households. Many families on limited food budgets will have to change the amounts of food groups they ordinarily use to follow the plan. Nutrition educators can use the plan and materials based on the plan to encourage families to make these changes to achieve nutritious diets.

#### Other Economical Food Plans

The thrifty plan is only one of many nutritious combinations of food groups at extremely low cost. Amounts of food groups in consumption patterns could be changed in other ways to provide nutritious diets. While such combinations would deviate further than the thrifty plan from food consumption patterns, they might be acceptable to some households.

Other food plans at the same or lower cost than the thrifty plan could be developed if selections of foods within food groups were limited to only those foods which are the least expensive, rather than selections typical of those of survey households. For example, the thrifty plan contains some fluid milk, as was typical of the consumption of the survey households. Nonfat dry milk costs only about half as much as fluid milk, yet provides as much or more of most nutrients supplied by fluid milk. Therefore, a plan that assumes the use of nonfat dry milk exclusively might be developed at a cost lower than the cost of the thrifty plan. Or a plan at the same cost as the thrifty plan might be developed with only nonfat dry milk and more meat, poultry, and fish

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<sup>&</sup>lt;sup>3</sup>Recommended Dietary Allowances 1974, Eighth Edition. National Academy of Sciences-National Research Council, 1974.

<sup>&</sup>lt;sup>4</sup>The meals presented here are slightly less costly than the sample meals presented in the Fall 1975 issue of Family Economics Review, which illustrated the kinds of meals four-person households receiving food stamps might be able to afford using the total coupon allotment for a four-person household in the Food Stamp Program. The value of the coupon allotment, based on the cost of the thrifty plan for a household consisting of husband, wife, and two elementary school children, is slightly higher than the cost of the thrifty plan for the average four-person household receiving food stamps because the last plan has proportionately more young children and women.

Table  $\mu$ . A week's menus based on the thrifty food plan

SUNDAY	B Orange juice R French toast E Sirup A Beverage K K Y T	Beef pot roast Gravy L Mashed potatoes U Mixed vegetables N Bread C Ice milk H Beverage	Beans in tomato sauce D Macaroni salad I Pear halves N Cornbread N Gelatin E Beverage	Doughaut N A C C K
MONDAY	Orange juice Ready-to-eat cereal Doughnut Beverage	Grilled cheese sandwiches Macaroni salad Baked apples Beverage	Beef stew with vegetables Cornbread Ice milk Beverage	Bread and jelly sandwiches
TUESDAY	Peaches, sliced Grits Cinnamon toast Beverage	Frankfurters Sauerkraut Bread Oatmeal cookies Beverage	Beef pie with vegetables Refrigerator biscuits Lettuce wedges with dressing Peanut butter cake Beverage	Cheese and saltine crackers
WEDNESDAY	Orange juice Eggs Pan-fried potatoes Toast Beverage	Beef macaroni soup Saltine crackers Plums Beverage	Fried chicken Rice Gravy Corn Bread Peanut butter cake Beverage	Doughnut
THURSDAY	Peaches, sliced Ready-to-eat cereal Toast Beverage	Noodle soup Peanut butter and jelly sandwiches Carrot sticks Graham crackers Beverage	Beef patties Baked potatoes Stewed tomatoes Muffins Ice milk Beverage	Peanut butter cake
FRIDAY	Apple juice Farina Toast Beverage	Frankfurter bean soup Saltine crackers Oatmeal cookies Beverage	Cheese rarebit on toast French-fried potatoes Collards Meringue pie Beverage	Graham crackers
SATURDAY	Apples, quartered Pancakes Sirup Beverage	Cheese sandwiches Gelatin (with apple juice and celery) Meringue pie Beverage	Spaghetti with meat sauce sauce (lettuce, carrots, dressing) Bread sticks Ice milk Beverage	Ready-to-eat cereal

Note: Milk for everyone at least once daily, and for children, teenagers, and pregnant and nursing women, more often. Spreads for bread and sugar for cereal, coffee, and tea may be added, if desired.

and less dry beans and grain products than the thrifty plan.

Through guidance materials and nutrition education programs, families using food stamps and other families wishing to economize on food are encouraged to, and may alter their consumption to, include only the economical foods within the food groups. However, for purposes of estimating the nutritive value and the cost of a plan for use nationwide, selections

of foods based on those made on the average by survey families with relatively low food costs are believed to be more reasonable.

#### THE THRIFTY FOOD PLAN AND THE FOOD STAMP ALLOTMENT

The thrifty food plan has replaced the economy plan as the basis for the coupon allotment in the Food Stamp Program in the 48 contiguous States and the District of Columbia. The coupon allotment (based on the cost of the thrifty plan for the family of four with two

elementary school children), eligibility standards, and purchase requirements for the program, effective January 1, 1976, were released in the FEDERAL REGISTER, December 1, 1975.

#### AGRICULTURAL HANDBOOK 102 REVISED

A major revision of Agriculture Handbook 102 "Food Yields Summarized by Different Stages of Preparation" by Ruth H. Matthews and Young J. Garrison was published in September 1975. This handbook updates the data in the first edition published in 1956 and provides new data that take into account the many technological developments that have occurred in the production, processing, and preparation of food, as well as changes in equipment and cooking procedures.

Data in this publication are intended for reference purposes or to be applied to various practical problems, such as developing food plans, estimating food costs, requisitioning food supplies, establishing food allotments for needy families, and preparing food-buying guides for such groups as schools, camps, and nursing homes. In addition, the data in this publication are to serve as the principal basis for values on refuse in the next edition of Agriculture Handbook No. 8, "Composition of Foods...Raw, Processed, Prepared."

Since publication of the first edition of this handbook there have been a number of changes that have affected food yields. For example, new cultivars have been developed to meet the needs of mechanical harvesting or to improve economic benefits through greater crop yields or increased resistance to disease. Leaner type hogs have been developed in response to the demand for leaner meat. Numerous freezedried foods, meat analogs, imitation products, new forms of pasta, precooked cereals, and other kinds ofmanufactured various convenience foods are now marketed that were no more than ideas a few years ago. The use of microwave ovens may affect the yield of foods cooked or reheated in this equipment. The internal temperature recommended for cooking pork (77° C, 170° F) has been lowered, shortening the cooking time and increasing the yield of cooked pork. New data reflecting the effects of these developments on food yields are given in the revised Handbook 102.

To obtain copies send check or money order (no cash) for \$2.00 per copy to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. For information on machine-readable tapes of the data, write: USDA, ARS, Consumer and Food Economics Institute, Survey Statistics Group, 6505 Belcrest Road, Hyattsville, Md. 20782.

<sup>&</sup>lt;sup>5</sup>One USDA publication that provides information on food shopping for consumers interested in economizing on food is "Your Money's Worth in Foods," USDA, HG-183. Single copies are available free from the Office of Communication, U.S. Department of Agriculture, Washington, D.C. 20250.

# CONVENIENCE FOODS-1975 COST UPDATE

by Larry G. Traub, Economic Research Service and Dianne Odland, Agricultural Research Service

With food prices increasing, with real incomes not improving appreciably, with rising awareness of good nutrition, with more social and work demands on the housewife, and with food processing firms continually introducing new products, the homemaker's decision on what foods to buy for her family has become very complex. Information on the cost differential between selected convenience or processed food forms and their home-prepared or fresh counterparts can aid the homemaker in these decisions.

An extensive cooperative study on convenience foods was undertaken in the late 1950's by the Economic Research Service (ERS) and the Agricultural Research Service (ARS) of the U.S. Department of Agriculture. The study included foods in fresh, canned, dried, and frozen forms, representing several food categories including baked goods, pasta, and rice; dairy products; meat, poultry, and fish; vegetables and fruits; and baby food, desserts, candy and soups. A total of 247 items was studied. Cost, comparative yield, nutritive value, quality, and preparation time of convenience foods and their home-prepared counterparts were studied and the results reported in a series of publications<sup>2</sup> that appeared in the 1960's. Average cost per serving figures showed that 116 out of the 158 convenience foods studied were more expensive than their homeprepared counterpart.

Food and fuel prices have risen substantially, the value of homemakers' time has increased, and a number of "new generation" convenience products have been introduced to the market since the previous study. Therefore, ERS and ARS conducted a study in 1974 and 1975 to evaluate cost, volume of sales, home preparation time and use of fuel, and eating quality of selected convenience foods and their home-prepared counterparts. Only ingredient cost information will be presented in this paper.

Costs were computed for 295 foods—107 were either home-prepared or fresh foods and 188 were convenience foods of which 162 have a home-prepared or fresh counterpart. Forty-three "new generation" convenience foods, which were not on the market in 1960, were included in the study.

#### **Laboratory Procedures**

Fifty-one food items tested in 1960 were retested in the laboratory to determine differences in total yield and proportion of major ingredients since the previous study. In addition, laboratory tests were made for 36 "new generation" convenience foods and for several other products not previously tested. Most of the home-prepared counterparts were also studied. Three tests were conducted for each product.

<sup>&</sup>lt;sup>1</sup>Convenience foods are defined here as "any fully or partially prepared food in which significant preparation time, culinary skills, or energy inputs have been transferred from the homemaker's kitchen to the food processor and distributor." Products introduced before 1960 will be referred to as "established" convenience foods, while those introduced since 1960 will be referred to as "new generation" convenience foods.

<sup>&</sup>lt;sup>2</sup>Chapman, V. J., Sweeney, J. P., Martin, M. E., and Dawson, E. H., Fruits: Consumer Quality Characteristics, Yield, and Preparation Time of Various Market Forms, U.S. Dept. Agr., Home Econ. Res. Rpt. No. 29, 1965. Gilpin, G. L., Murphy, E. W., Marsh, A. C., Dawson, E. H., Bowman, F., Kerr, R. G., and Snyder, D. G., Meat, Fish, Poultry, and Cheese: Home Preparation Time, Yield, and Composition of Various Market

Forms, U.S. Dept. Agr., Home Econ. Res. Rpt. No. 30, 1965. Harp, H. H., and Dunham, D. F., Comparative Costs to Consumers of Convenience Foods and Home-Prepared Foods, U.S. Dept. Agr., Market. Res. Rpt. No. 609, 1963. King, P. L., Gilpin, G. L., and Dawson, E. H., Comparison of Several Market Forms of Potato Products, Jour. Home Econ. 54 (10), 1962. Matthews, R. H., Murphy, E. W., March, A. C., and Dawson, E. H., Baked Products: Consumer Quality, Composition, Yield, and Preparation Time of Various Market Forms, U.S. Dept. Agr., Home Econ. Res. Rpt. No. 22, 1963. Sweeney, J. P., Chapman, V. J., Martin, M. E., King, P. L., and Dawson, E. H., Vegetables: Consumer Quality, Yield, and Preparation Time of Various Market Forms, U.S. Dept. Agr., Home Econ. Res. Rpt. No. 17, 1962.

Convenience products were prepared according to package directions, and each home-prepared item according to a recipe which, whenever possible, was formulated to contain the same types of ingredients as the corresponding convenience item. For example, if the ingredient label of convenience food specified that it contained butter rather than margarine, then butter was used in the home-prepared food. Home-prepared items initially tested in 1960 were prepared using the same recipe as in the earlier study.

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One market brand and container size of each convenience food available at a retail food store in the Washington, D.C., metropolitan area were tested. Where more than one brand or size was available, a nationally advertised brand of medium price and container size was selected for study. Food containers for the selected brand were chosen randomly from the grocery shelves. All foods requiring refrigeration were stored at 38°F, frozen items at 0°F, and canned goods at room temperature.

Finished products were weighed to the nearest gram and then grams converted to ounces. The number of servings per recipe for the home-prepared product or per market unit for the corresponding convenience item was calculated on the basis of equal weight servings. Individual components of the prepared convenience products were weighed, except where small particle size or consistency of the food did not permit separation of ingredients. For example, in the testing of pizza, tomato sauce and cheese could be separated from the crust but could not be separated accurately from each other. Components in the products were weighed to permit comparison between the quantity of the most costly ingredients, such as the amount of shrimp in shrimp newburg.

The cost of each ingredient used in home-prepared products was based on the actual amount of food required. For example, in a recipe which required two cups of cooked diced chicken, the weight of raw chicken which must be cooked to obtain this amount was used for costing purposes. Vegetables that must be trimmed or pared or canned ingredients that must be drained before use are other examples of foods for which yield must be considered. To allow for differences due to such factors as variety, geographic location, season, container size, and brand of ingredients consumers com-

monly use in recipes, current data on food yields<sup>3</sup> were used in reporting the amount of food ingredients required for purchase. Because these data are average figures based on many samples, it is believed that this manner of reporting the "as purchased" weights of ingredients gives a more accurate representation than could be calculated using figures obtained in only three tests.

#### Cost Procedures

ERS collected price data for national and regional volume brand movers and nonbrands (store brands, private labels, and contract labels) over 12 months (July 1974 through June 1975) from leading food retail chainstores in Philadelphia, Milwaukee, Oakland, and New Orleans.

The first step in computing costs was to weight each monthly price per ounce for brand and chainstore effects. The brand effect is the ratio of brand food and nonbrand food sales to their total sales. To compute the brand effect when both a brand and nonbrand food product were sold by a given chain in a given city for a given month, the price of the volume brand mover was weighted (multiplied) by 0.82; the price of the nonbrand was weighted by 0.18; and the two prices summed. These weights were provided by the National Association of Food Chains. The weights assume no difference brand-effect ratios among products. Although brand-effect ratios differ among products, unfortunately, no data were available to compute unique brand-effect ratios for each product.

The chainstore effect is the ratio of food sales of an individual chainstore relative to sales of all participating chainstores that sold the product in the market. To compute the chainstore effect for each city during a given month, the price of a product at each chainstore was weighted by its respective chainstore ratio. The weighted prices for each chainstore were then summed. The sales data for computing chainstore ratios were from the 1975 GROCERY DISTRIBUTION GUIDE, Metro Market Studies, Inc.

<sup>&</sup>lt;sup>3</sup> Matthews, R. H., and Garrison, Y. J. Food Yields Summarized by Different Stages of Preparation. U.S. Dept. Agr., Agr. Handb. No. 102, 1975.

The second step in computing costs was to multiply the weighted price per ounce by the number of ounces of the convenience form, or by the number of ounces of the ingredients in the home-prepared formulation for the months in the given city that all ingredients were available to prepare the food. Whenever possible, the most costly ingredient(s) was(were) held in the same proportion to all ingredients in the home-prepared recipe as was found in the convenience counterpart. Finally, costs were totaled and were divided by the number of servings of the food product. The result was a comparative cost for equivalent weight servings.

#### **Cost Comparisons**

The table presents information on the comparative cost of selected convenience foods and their home-prepared or fresh counterparts. Unless otherwise indicated, the results are average cost per serving figures computed from prices collected in four cities for 12 months.

Of the 162 convenience foods studied, only 36 percent had a cost per serving lower than their home-prepared or fresh counterpart. Only 8 of 43 "new generation" convenience foods were less expensive than similar products prepared from home recipes. A summary of the results of the study follows:

- Nearly all of the frozen, chilled, or ready-to-serve baked goods were more expensive than preparing them from recipes or mixes. Better than one-half the products made from a complete mix were less expensive than their home-prepared counterpart.
- Frozen and chilled cheese pizzas were about 60 percent more expensive than both home-prepared and packaged combination cheese pizzas.
- All forms of margarine were less expensive than butter in bulk or quarters, but margarine in a tub or in a squeeze bottle was higher in price than stick margarine. Scrambled eggs prepared from a frozen "cholesterol-free" egg product were almost twice as expensive as scrambled fresh eggs.
- All frozen beef entrees and dinners and two of three skillet main dishes made from mixes were more expensive than their respec-

tive home-prepared counterpart. For consumers desiring to save money by the addition of soy protein to ground beef patties, soy protein added to ground beef at the grocery store was found to render the most savings.

- Eight of nine chicken convenience products were more costly than similar products prepared from fresh chicken. The cost of home-prepared, batter-dipped chicken and chicken meat from whole fryers was less than one-third that of the convenience products. Both chicken a-la-king frozen in a pouch and canned chicken salad spread, two "new generation" convenience foods, were about 60 percent more expensive per serving than their respective counterpart. Consumers approximately 40 cents more per serving for frozen turkey dinner or tetrazzini than for the separate ingredients to prepare these dishes at home.
- Frozen fish sticks and crabcakes were less expensive, but frozen haddock dinner, tuna noodle casserole, and shrimp newburg in a pouch were considerably more expensive than these products prepared at home.
- Of the 37 vegetable convenience products studied, 16 single ingredient items in the canned or frozen form were cheaper than their fresh or home-prepared counterpart. Still, 6 of these 16 processed vegetables were more expensive than their fresh form during the fresh vegetable's growing season.
- Products prepared from dehydrated potatoes and frozen vegetable side dishes were more expensive than similar products prepared from scratch. But frozen french-fried potatoes were less expensive than french fries prepared from fresh potatoes.
- Over 60 percent of the convenience fruit and berry products had a higher cost than their fresh counterpart. Frozen orange juice concentrate was the best orange juice buy.

The cost of convenience is often a factor in the consumer's decision to buy a convenience food or to prepare the product from scratch. Consumers, however, may also want to consider factors such as nutritive value, family preferences, culinary skills, and time and equipment available for food preparation.

Cost comparison per serving of selected home-prepared foods with convenience counterparts, 4-city average, July 1974 to June 1975

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Product	Serving	Fresh or home prepared	Frozen	Canned	Ready to serve	Complete mix 1/	Incomplete mix 2/	Other
BAKED GOODS. PASTA. AND RICE	Ounces	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Baked goods Baking powder biscuits	1.40	2.69	•			3.08	•	3/ 4.04
Bread stuffing	2.12	7.26						4/5 27
Brownies	0.70	4.91	6.30		5.87	4.19	4.54	
Bundt, fudge	4.10	15			07.61	06.7	. 4/15.76	
Devils food	$\frac{1.70}{1.10} \dots$	4.09	13.09		12.19		5.45	
Yellow	1.20	4.91					4.19	3/00/8
Muffins, corn	1.50	3.82			66.7		3.37	08.7 /
Pancakes	5.30	11.15	34.40			7.31	13.13	
Pie: Apple	4.70	12.52	20.46		24.01	17.70	16.68	
Cherry	4.50	16.63	22.42		24.24	18.63	5/ 14 04	
Rolls yeast	1.30	2.39	3.28		6.22	3.55	14.04	6/6.93
Waffles	3.30	6.62	18.47			4.03	7.06	
Pasta and Pizza	0	r r	0					7/ 77 01
Fizza: Uneese	8.50	5/.51	61.89					3/58 38
AppetizerSpaghetti	8.30	22.23	, 126.91	15.89				, 15.
Cooked	3.35	2.89						
Precooked	3.35							. 4.35
Spanish Fried.	4.46	12.43	25.33	10.94				7/ 10.30
DAIRY PRODUCTS American cheese: Loaf	2.00					•		. 16.53
SlicedIndividually wrapped	2.00 2.00 2.00							., 16.82 4/ 16.75 ., 12.27
Aerosol can  Butter: Quartered  Bulk.	2.00 0.33 0.33							±/ 37.73 . 1.94 . 1.86

See footnotes at end of table, p. 33.

Cost comparison per serving of selected home-prepared food with convenience counterparts, 4-city average, July 1974 to June 1975--continued

	size	or home	Frozen	Canned	Ready to serve	Complete $mix\frac{1}{2}$	Incomplete $mix\frac{2}{}$	Other
	Ounces	Cents	Cents	Cents	Cents	Cents	Cents	Cents
UAIRY PRODUCTScontinued Cheese, fondue Cream, whipping	2.72 1.00	28.95 6.60 14.67	4/26.07				m	$\frac{3/44}{8}$ 33.55 $\frac{8}{8}$ 8.60
Margarine: Quartered Soft tub	0.33 0.33 8.47	9.13	9.13					$\frac{4}{4}$ 1.65 $\frac{4}{1.68}$ $\frac{9}{5.83}$
MEAT, POULTRY, AND FISH  Beef Chili-macaroni, skillet main dish	9.21	27.79					\frac{1}{1}	4/10/30.41
Dinner	11.00	52.42 4/	78.88 <u>4</u> /84.07					
Lasagne, Skiller main dish  Meat loaf dinner  Patties	8.69 9.07 2.67	35.33 41.32 21.11	70.16					19 26.20
added to ground beef	2.67 4/							
PieSloppy Joe sandwich	8.00	20.70	39.63					4/ 14.99
SauceStewStew	2.76	11.11		$\frac{4}{2}$ 17.02 33.70				
main dish	7.96	45.90						0/47.41
HamSweet and sourSausage: BulkLinked	2.00 5.98 2.00	31.94 29.52 38.44	$\frac{4}{14}/52.27$ 28.31	30.60			4	$\frac{11}{4}$ 28.92
A-la-king Batter dipped,	5.73	:	4/36.43					
deep fat fried	2.00	12.43	. 39.30	. 25.75				

See footnotes at end of table, p. 33.

Cost comparison per serving of selected home-prepared food with convenience counterparts, 4-city average, July 1974 to June 1975--continued

Complete Incomplete mix $\frac{1}{2}$ mix $\frac{2}{2}$ Other	Cents Cents Cents		4/10/ 23.16	
Ready to serve	Cents			
Canned	Cents	$32.80$ $31.39$ $\frac{4}{4}$ $32.89$	50.07	19.52 8.93 7.55
Frozen	Cents	62.70 62.70 35.63 71.26 14.78.57 99.96		20.35 16.02 1, 22.08 1, 25.38
Fresh or home prepared	Cents	. 39.13 . 22.62 . 25.12 . 39.94 . 10.37 . 29.28 . 18.75 . 29.53 . 41.50	26.17 60.36 29.45 61.20 39.74 68.88	23.07 12.56 13.30
Serving	Ounces	6.60 2.00 10.07 11.50 2.52 2.52 12.50 8.07	78	2.10 3.20 3.20 4.23
Product	MEAT, POULTRY, AND FISH continued Chicken-continued	Chow mein. Fried: Cut-up fryers. Whole fryers. Fried, dinner. Meat. Pie. Salad, sandwich spread. Turkey Dinner. Tetrazzini. Fish and shellfish Haddock dinner. Pollock fish sticks	Tuna noodle casserole Crabcakes Shrimp cooked Shrimp fried Partly prepared, cooked Partly prepared, breaded Prefried Diced and extruded, breaded breaded Shrimp, newburg	Vegetables Vegetables Asparagus spears Beets: Plain Harvard style Broccoli spears: Plain In butter sauce

See footnotes at end of table, p. 33.

Cost comparison per serving of selected home-prepared food with convenience counterparts, 4-city average, July 1974 to June 1975--continued

Other	Cents														/ 11.93	1		12/12/16	12/1 85	50:		12/10 71	7 10.74											6/ 3 94	:			
Incomplete mix 2/	Cents														12/			1.5				1.5												4/16/				
Complete mix 1/	Cents																																		•			
Ready to serve	Cents																																					
Canned	Cents		. 11.35	. 9.74	. 7.10	. 11.59		9.58			. 11.15		. 14.40	. 13.96	•	. 12.69	ı								. 13.02	. 21.73	3.03	5.88	5.83	. 14.06		15/2.61	15/6.60	0.93	17.01	4/24.07	. 12.53	. 24.05
Frozen	Cents					11.10	13.37	-	7 L	. 4/ 25.09	-	. 4/ 20.53	11.24		25.17		98.9			11 51				4/21 81			•						4.29	4/3.34	26.67			34.32
Fresh or home prepared	Cents		4.11	. 6.76		. 12.04	. 13.24	8.11		. 20.98	. 26.77	. 14.70		. 12.76	٠	3.31	•	•	3.30		. 00. 0	•	00.6		24.75	21.78		7.29	5.54	,	7.96		11.90		14.59			23.34
Serving	Ounces		3.83	2.80	2.80	2.90	6.10	2.30	2.30	4.30	2.80	3.81	2.90	6.86	4.50	4.00	2.00	3.90			2.50	30		2 64	3.40	$\frac{13}{2}$ 3.90	0.30	2.40	2.40	•	1.10		4.40	4.40	3.70	3.70	3.20	2.60
Product		VEGETABLES AND FRUITSCon. Vegetablescontinued	Butter beans	Carrots: Sliced	Diced	Corn, cut	Corn-on-the-cob	Green beans: Plain	Bulk bag	Casserole	Green peas	Hawaiian-style	Lima beans	Pork and beans	Potatoes: Au gratin	Boiled, whole	French fried	Hash browned	Mashed	Patties	Puffs	Scalloned	Stuffed, sour cream	and chives	Spinach		Coconut	Cranberry sauce: Strained	Whole	Grapefruit sections	Lemon juice		Orange juice	Orange drink	Peaches	Peaches, aseptic can	Pineapple	Kaspberries

Cost comparison per serving of selected home-prepared food with convenience counterparts, 4-city average, July 1974 to June 1975--continued

Other	Cents		4 15.81
Incomplete $mix \frac{2}{}$	Cents		: : : : :
Complete mix $\frac{1}{x}$	Cents		
Ready to serve	Cents		
Canned	Cents 44.62	34.03 15.27 16.16	$\frac{10.92}{4}$ 27.59
Frozen	Cents $\frac{17}{33.00}$ $\frac{17}{4}$ 33.00 $\frac{1}{4}$ 27.47 $\frac{1}{4}$ 21.78		<u>4</u> / 38.39
Fresh or home prepared	Cents 20.51	29.29 18.76 18.76 145.33 18.71	
Serving size	3.50 3.50 3.50 3.50	3.50 4.75	8.48 8.48 8.48
Product	VEGETABLES AND FRUITSCon.  Fruitscontinued Strawberries: Sweetened Whole	Baby food Liver, beef Peaches	Soups Split pea Condensed Ready-to-heat Dried, individually packaged servings

Requires eggs and/or other ingredients in addition to the water or milk needed for every dry mix. Requires only milk or water and sometimes additional flavoring ingredient(s) such as vanilla.

Chilled.

Introduced after 1960.

Based on the cost of egg whites only.

Brown and serve.

Packaged combination.

Aerosol can. œ

Skillet main dish mix. Dry. 10

Fully cooked. Dehydrated. 11

Weight of serving reported in ounces for drained solids except for cranberry sauces, lemon juice, orange juice, and orange drink. In plastic container. 12 14

Bottled.

Crystals.

Prepared from canned goods.

#### SOME NEW USDA PUBLICATIONS

(Please give your ZIP code in your return address when you order these.)

Single copies of the following are available free from the U.S. Department of Agriculture, Washington, D.C. 20250. Please address your request to the office indicated.

From Office of Communication:

- HOME CANNING OF FRUITS AND VEGETABLES. G 8. Slightly revised March 1975.
- HOME CARE OF PURCHASED FROZEN FOODS. G 69. Slightly revised May 1975.
- TREES FOR SHADE & BEAUTY: THEIR SELECTION AND CARE, G 117. Slightly revised April 1975.
- KEEPING FOOD SAFE TO EAT: A GUIDE FOR HOMEMAKERS. Revised July 1975.
- CONTROL OF INSECTS ON DECIDUOUS FRUITS AND TREE NUTS IN THE HOME ORCHARD—WITHOUT INSECTICIDES. G 211. July 1975.
- HOME FREEZING OF POULTRY AND POULTRY MAIN DISHES. AB 371. Revised September 1975.

From Information Division, Agricultural Marketing Service:

• HOW TO BUY CANNED AND FROZEN VEGETABLES. G 167. Revised January 1975.

From Economic Research Service, Division of Information:

- AMERICAN INDIANS IN TRANSITION. AER 283. April 1975.
- 1975 HANDBOOK OF AGRICULTURAL CHARTS, AH 491, October 1975.
- VACANT HOUSING—IS IT ADEQUATE AND IN THE RIGHT PLACES? SB 536. February 1975.

#### EDUCATIONAL LEVEL OF THE LABOR FORCE

The educational level of the labor force continues to rise. In March 1975, 7 of every 10 workers were at least high school graduates. Three of every ten workers had attended college, and half of these had completed 4 years of college or more.

Unemployment rates were lowest for college graduates and highest for high school dropouts—3 and 15 percent, respectively—in March 1975. Although unemployment rates increased for workers at all educational levels between March 1974 and March 1975, the rise was

sharpest among workers who had not completed 8 years of schooling.

As in the past, a greater proportion of working women than working men were high school graduates, and black workers lagged behind white workers in years of schooling completed.

Source: U.S. Department of Labor, Bureau of Labor Statistics. Educational Attainment of Workers, March 1975. Special Labor Force Report, July 1975.

#### **CONSUMER PRICES**

Consumer price index for urban wage earners and clerical workers (1967 = 100)

Group	Oct. 1975	Sept. 1975	Aug. 1975	Oct. 1974
Al1 items	164.6	163.6	162.8	153.2
Food	179.0	177.8	178.1	166.1
Food at home	179.3	178.2	179.0	166.5
Food away from home	178.0	176.5	175.3	164.7
Housing	169.8	168.9	167.7	156.7
Shelter	172.5	171.6	170.7	159.9
Rent	139.3	138.4	138.0	132.2
Homeownership	184.8	183.9	182.8	170.1
Fuel and utilities	172.0	170.9	168.9	155.2
Fuel oil and coal	243.3	238.7	235.7	225.5
Gas and electricity	174.2	174.0	171.2	151.5
Household furnishings				
and operation	160.9	160.1	158.8	149.0
Appare1 and upkeep	144.6	143.5	142.3	141.1
Men's and boys'	143.7	142.8	141.1	141.4
Women's and girls'	141.6	139.9	138.7	140.2
Footwear	154.4	144.6	143.9	141.7
Transportation	156.1	155.4	153.6	145.1
Private	154.8	153.9	153.4	144.6
Public	168.8	169.5	155.0	148.8
Health and recreation	156.3	155.4	154.6	145.2
Medical care	173.5	172.2	170.9	156.3
Personal care	152.9	152.1	151.4	143.0
Reading and recreation	146.6	146.0	144.7	137.8
Other goods and services.	148.5	148.0	148.1	141.4

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Index of prices paid by farmers for family living items (1967 = 100)

Item	Nov. 1975	0c <b>t</b> . 1975	Sept. 1975	Nov. 1974	Oct. 1974	Sept. 1974
All items  Food and tobacco Clothing	182  189	180	180 182	171	167	166 167 176
Household operation Household furnishings		180 159				161 146
Building materials, house			189			181

Source: U.S. Department of Agriculture, Statistical Reporting Service.

#### FAMILY ECONOMICS REVIEW WINTER 1976

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This issue is made up, for the most part, of condensations of papers prepared for the National Agricultural Outlook Conference, held in Washington, D.C., November 17-20, 1975. For a free copy of the complete text, send your request—giving title and author of the Article—to the Consumer and Food Economics Institute, Agricultural Research Service, U.S. Department of Agriculture, Federal Building, Hyattsville, MD 20782. Please give your ZIP code with your return address.

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